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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/464,830	12/17/1999	KARL J. MOLNAR	8194-350	8144

20792 7590 08/13/2003

MYERS BIGEL SIBLEY & SAJOVEC  
PO BOX 37428  
RALEIGH, NC 27627

EXAMINER
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AHN, SAM K

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 08/13/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/464,830

Applicant(s)

MOLNAR, KARL J.

Examiner

Sam K Ahn

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on req. for reconsideration, 5/19/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-18 and 25-36 is/are allowed.
- 6) ☒ Claim(s) 1,3,19 and 21 is/are rejected.
- 7) ☒ Claim(s) 2,4-6,20 and 22-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2634

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1, 3, 19 and 21 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 19 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Cui ('518).

Regarding claims 1 and 19, Cui discloses a method and apparatus of a receiver comprising SA-CCIC (Single Antenna – Co-channel Interference Cancellation) demodulator and a conventional demodulator. Cui further teaches SINR detector that measures signal to interference and noise ratio. Cui teaches demodulating the signal when a relationship between the signal and the noise and the interference meets a criterion, and jointly demodulating the signal when a relationship between the signal and the noise and the interference does not meet a criterion. (note col.14, lines 7-18) Joint demodulation can be defined, as stated in the specification (note 26<sup>th</sup> line on page 1 – 4<sup>th</sup> line on page 2) as a demodulator comprising more complex operation than a conventional demodulator, and detecting desired signal from a received signal that includes an interfering signal. Cui teaches SA-CCIC demodulator with equal function as of the joint demodulator.

Regarding claims 3 and 21, Cui teaches all subject matter as applied to claims 1 and 19. In demodulating the signal received, Cui further teaches a threshold SINR value of 6 dB to determine whether conventional demodulation or SA-CCIC demodulation is used. (note col.14, lines 7-18) When SINR value is greater than 6 dB, conventional demodulation is used, while SA-CCIC demodulation is used when less.

***Allowable Subject Matter***

1. Claims 2, 4-6, 20 and 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
2. Claims 7-18 and 25-36 are allowable.

The following is a statement of reasons for the indication of allowable subject matter: Prior art does not teach a method of detecting a desired signal including a desired signal synchronization sequence from a received signal that includes an interfering signal having an interfering signal synchronization sequence comprising detecting method of synchronizing the received signal, generating a first desired signal, an estimate of an interference to noise ratio of the received signal and an identification of the interfering signal synchronization sequence from the synchronized received signal, generating an estimate of a carrier to interference and noise ratio of the received signal, jointly demodulating the received signal in

Art Unit: 2634

response to the identification of the interfering signal synchronization sequence, to generate a second desired signal based upon the estimate of the carrier to interference and noise ratio of the received signal and the estimate of the interference to noise ratio of the received signal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam K Ahn whose telephone number is 703-305-0754. The examiner can normally be reached on Mon-Fri 9am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

SKA  
August 5, 2003



**STEPHEN CHIN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**